

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-12 are pending in this application. By this Amendment, Claim 1 is amended; and no claims are canceled or added herewith. It is respectfully submitted that no new matter is added.

In the outstanding Office Action the JP references filed in the IDS of June 2, 2005 were indicated as not being considered; Claims 1-7 and 9-12 were rejected under 35 U.S.C § 103(a) as being unpatentable over JP 2002-259095 to Shigeki in view of JP 11-212725 to Yoshitaka and further in view of U.S. 2003/0205450 to Divigalpitiya; and Claim 8 was rejected under 35 U.S.C § 103(a) as being unpatentable over Shigeki, Yoshitaka and Divigalpitiya and further in view of U.S. Patent No. 6,422,757 to Wu.

The Official Action has indicated that the JP references cited in the IDS, filed June 2, 2005, have not been considered because no English translation was provided for the references. In this regard, Applicants respectfully direct the Examiner's attention to MPEP § 609, which states:

Where the information listed is not in the English language, but was cited in a search report or other action by foreign patent office in a counterpart foreign application, the requirement for a concise explanation of relevance can be satisfied by submitting an English-language version of the search report or action which indicates the degree of relevance found by the foreign office. This may be an explanation of which portion of the reference is particularly relevant, to which claims it applies, or merely and "X", "Y", or "A" indication on a search report.¹

Applicants note that a corresponding search report was filed along with the IDS of June 2, 2005 indicating the relevance of the listed reference as either "X" "Y" or "A."

¹ MPEP § 609, page 600-129.

Therefore, Applicants have complied with their duty of disclosure under 37 C.F.R. 1.98 and MPEP § 609². Accordingly, Applicants respectfully submit that the references cited in the IDS of June 2, 2005 are required to be considered and request indication of such in the next communication.

With respect to the rejections under 35 U.S.C. § 103(a) the applied art does not teach, suggest or render obvious a control portion that controls a deformation mechanism portion to start driving the piezoelectric actuator to gradually deform the operation surface in one direction and then to deform the operation surface in a reverse direction so that the period for which the operation surface is deformed in one direction is sufficiently larger than the period for which the operation surface is deformed in the reverse direction when said press force detection portion detects that the operation surface has been pressed, as recited in Claim 1. That is, Claim 1 is directed to an input apparatus that among other things includes a control portion that controls a deformation mechanism. The control portion starts driving the piezoelectric actuator to gradually deform the operation surface in one direction. Then the control portion drives the piezoelectric actuator to deform the operation surface in the reverse direction. The control portion controls these operations such that a period of deformation in one direction is sufficiently larger than the period in which the operation surface is deformed in the reverse direction. As such, the control portion drives the deformation in two directions.

In contrast, Shigeki merely discusses in paragraph [0040] that there is a “sense-of-force device” that is operated to resist a user’s finger when pushed thereon. The sense-of-force device uses a bobbin coil to “put back to a user side” the user’s finger after the user’s finger is used to push on the surface. It is this “put-back” force that Shigeki uses to provide a sense of feedback. However, Shigeki does not teach or suggest a control portion that controls

² Furthermore, it is believed that the USPTO provides translation services for Examiners if the Examiner believes that a certain reference may be pertinent and not adequately described in the statement of relevance. Applicants encourage the Examiner to use these translation services consistent with examination guidelines.

the deformation mechanism to start driving the piezoelectric actuator to deform the operation surface in one direction and then in another direction. Rather, in Shigeki it is the user's finger that pushes the surface in a first direction. There is no control portion that drives the piezoelectric actuator to gradually deform the operation surface as claimed. Accordingly, Shigeki does not disclose a control portion that controls said deformation mechanism to start driving the actuator in one direction and then in the reverse direction. Shigeki is distinguished in the background section of the present application. See, e.g., page 2, beginning at line 13.

The outstanding Office Action also refers to paragraphs [0020] and [0046] in Shigeki. However, [0020] merely discusses an actuator with which the touch panel is interlocked with energization of each contact, operates in the input device and the actuator returns the sense of force from which it responds for every contact. Paragraph [0046] merely discusses a driver circuit to provide feedback by driving the bobbin coil. As such, Shigeki simply does not disclose a control portion that drives the operation surface gradually in one direction and then in the reverse direction.

The remaining applied art does not make up for the deficiencies of Shigeki discussed above nor does the outstanding Office Action assert as such. For example, Yoshitaka merely discusses a piezoelectric device that detects an input position. Divigalpitiya is asserted for its description of different periods for driving the surface in one direction, from the other direction. However, it seems that the outstanding Office Action is construing the reverse direction where the surface is merely restored (through resiliency) to the original position as “driving” a piezoelectric actuator. Divigalpitiya is merely describing the “relax” time of the particular materials involved without any particular description of driving the actuator.

In one or more embodiments of the invention, a press force detection portion 61 detects a timing at which the user presses the touch panel portion 2 “PUSH timing” and the

timing at which the user releases his finger is “PULL timing”. A sense pressure set switch 71 can be set to a level of sensitivity of a force sense that the user can feel with force sense feedback function at the touch panel 2, see at least page 23, lines 2-7, and a sense pressure set portion supplies an operation start signal to the timer 81 at the PUSH timing supplied from the press force detection portion 61.

For example, Figure 4 shows a situation where the Y axis shows a deformation amount of an operation surface. At time T401, the deformation amount moves from the zero to a maximum amount at time T402. During this time, the piezoelectric actuator 3 is driven to cause the operation surface to gradually deform upward (specification page 18, lines 22-25). After a predetermined time period T1, at the time T402, the piezoelectric actuator is driven to deform the operation surface in the reverse direction. The operation surface is deformed to a maximum amount in the opposite direction at time T403. (Specification page 19, lines 3-5). As discussed at page 19, lines 21-25, when the period T1 is much longer than the period T2, the user almost does not feel the upward deformation during time period T1, but then during period T2, the user can feel a “click sense” with a much larger force sense than that during period T1. An advantage with this approach is that the touch panel may be deformed from being maximally curved in one direction and then maximally curved in the reverse direction without having power consumed by the piezoelectric actuator to become large (specification page 3, line 21 to page 4, line 7) or using power in a standby state. With this efficient use of power, the user gets the tactile sensation of a “click” by the slow movement of the operation surface in one direction followed by a rapid movement in the opposite direction.

Withdrawal of the rejections under 35 U.S.C § 103(a) is respectfully requested.

Consequently, for the reasons discussed in detail above, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal allowance. Therefore, a Notice of Allowance is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact the undersigned representative at the below listed telephone number.

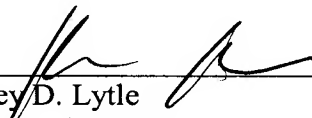
Respectfully submitted,

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